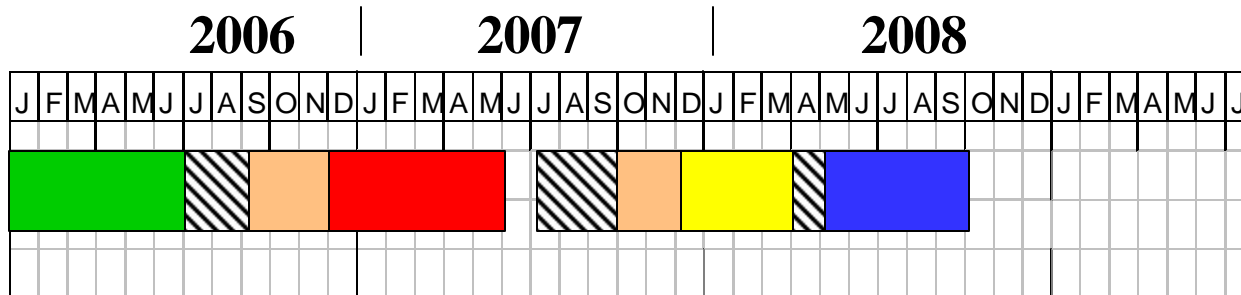











Triennial Review Ad Hoc Committee

May 9, 2006

Last Meeting !!

TRIENNIAL REVIEW TIMELINE



-  •Technical Development
-  •DPB and Executive Review 28 Days, 14 for SNR and Gov (This one submitted June 27 to DPB, Aug 22 to Gov and can end Aug 29, 7 days past SNR submittal if we hear no objections from Gov)
-  •NOIRA Comment Period (Sept 18-Nov 17)
-  •180 Days Includes Ad Hoc, Proposal Development, Board Approval will be outside the 180 days and occur in June
-  •DPB and Executive Review (Minimum 73 days for Secretary, no time limit for Gov, 14 days for us to publish)
-  •NOPC Comment Period
-  •150 Days (here will have to be 120 days) Includes Board Adoption in March 08
-  •DPB and Executive Review (minimum 21 days, 14 days for DPB and 7 for SNR, Gov has no time limit)
-  •Final Stages Includes Final Publication, AGO Certification, EPA Approval and Effective Date

Swamp Waters Class VII

- Delete Section 55 as it addressed the Bay, lakes and swamps. Bay and lakes are done now addressing swamp natural impairments
- Narrative most protective way to go
- Numerical DO standard as a minimum (0.0 – anything less than 4.0) not protective
- Not enough data to do daily averages
- Need to get EPA to agree de-listings can occur once natural condition is determined
- Dissolved oxygen criteria for Class VII do not exist (**) (footnote refers to criteria in table)

Table of Parameters

- EPA published criteria and revisions
- 2000 Human Health Methodology
- Significant figure footnote (2 significant digits for parameters in table – in other sections all values are significant)

Bacteria

- Agreed geometric mean is environmentally relevant endpoint
- Risk level for freshwater at 1% (working with VDH) marine 1.9%
- EPA gives States flexibility in application of the SSM (Beach Rule)
- 10% as part of criteria can be shown to be protective of designated uses (compared to 25% or 75 confidence level)
- 10% as part of criteria is consistent with fecal coliform and past expression of this value and that was considered protective of designated uses
- Applying statewide to all waters the highest frequency use protection which was intended to apply only to beaches is protective of designated use
- 10% easy to understand for public
- Site specific procedure only appropriate for beaches don't want a standard where you need a statistics course to understand and only appropriate in connection with the geometric mean and in most cases we don't have that
- To develop site specific standard deviation requires (according to EPA) at least 30 samples. Probably as resource intensive as getting a geometric mean

Bay Amendments

- Open Water Criteria apply year round but in two groups summer and non-summer
- Water clarity no grow zones deleted (no shallow water use Elizabeth River segments)
- Water Clarity zero goal segments with historically no SAV (four oligohaline segments) - no new criteria added
- EPA recommended acreage based on available habitat at .5M depth / 2.5
- These acreages more optimistic than segments with historical SAV
- Turbidity maximum zones

Chesapeake Bay Program Segment	SWSAV Designated Use Depth (Application depth)	Acres of Habitat within 0-.5 contour	Existing or EPA Proposed (Red) SAV Acres Criteria	SAV Acres Criteria expressed as % of Available habitat within the designated use (application depth)	DEQ Proposed (Red) SAV Acres Criteria based on % coverage in TF segment of same river system (except POCOH which uses 13%)	DEQ Proposed (Red) Water Clarity Acres Criteria based on % coverage in TF segment of same river system (except POCOH which uses 13%)
RPPTF	0.5	2,175	66	3%	66	
RPPOH	0.5	1,226	490	40%	37	93
MPNTF	0.5	835	85	10%	85	
MPNOH	0.5	323	129	40%	33	82
PMKTF	0.5	1,860	187	10%	187	
PMKOH	0.5	420	169	40%	42	106
JMSTF2 & JMSTF2	0.5	8,249	1200	15%	1200	
APPTF	0.5	1,084	379	35%	379	
JMSOH	0.5	3,179	15	0%	15	
CHKOH	0.5	3,283	535	16%	535	
POCOH (VA)	0.5	167	67	40%	21	53

Average of Segments with existing criteria (i.e. segments with previously mapped SAV and not in turbidity maximum zone)

13%

Average of Segments with proposed new criteria (i.e. segments without previously mapped SAV and with turbidity maximum zone)

40%

Bay Amendments

- Shallow water monitoring program to better identify available habitat for SAV (i.e. better define turbidity maximum zones and the effect on the SAV habitat)
- Readjust based on adjacent segment SAV percentages
- Add single best year acres as data comes in
- Potential to add after comment period
- Reoccurring triennial review issue

Trout Waters

- Cedar Creek (Bath), Beaver and Glade Creeks (delineation change)
- Hays/Moffetts, Hogue, Hawksbill, Mill (Rockbridge and Shenandoah), Tinker, Roanoke and Dan River will have adjusted summer for mountainous zone waters (31 °C)

Persistent Bioaccumulative (Bioaccumulative Pollutants of Concern) Mixing Zone Prohibition

Mixing zones shall not be allowed for new dischargers for the following parameters:
aldrin chlordane, DDD, DDE, DDT, dieldrin,
dioxin, endrin, endrin aldehyde, fluorene,
heptachlor, heptachlor epoxide.
hexachlorobenzene, kepone, mercury,
mirex, PCBs and toxaphene.

Persistent Bioaccumulative (Bioaccumulative Pollutants of Concern) Mixing Zone Prohibition / Impact

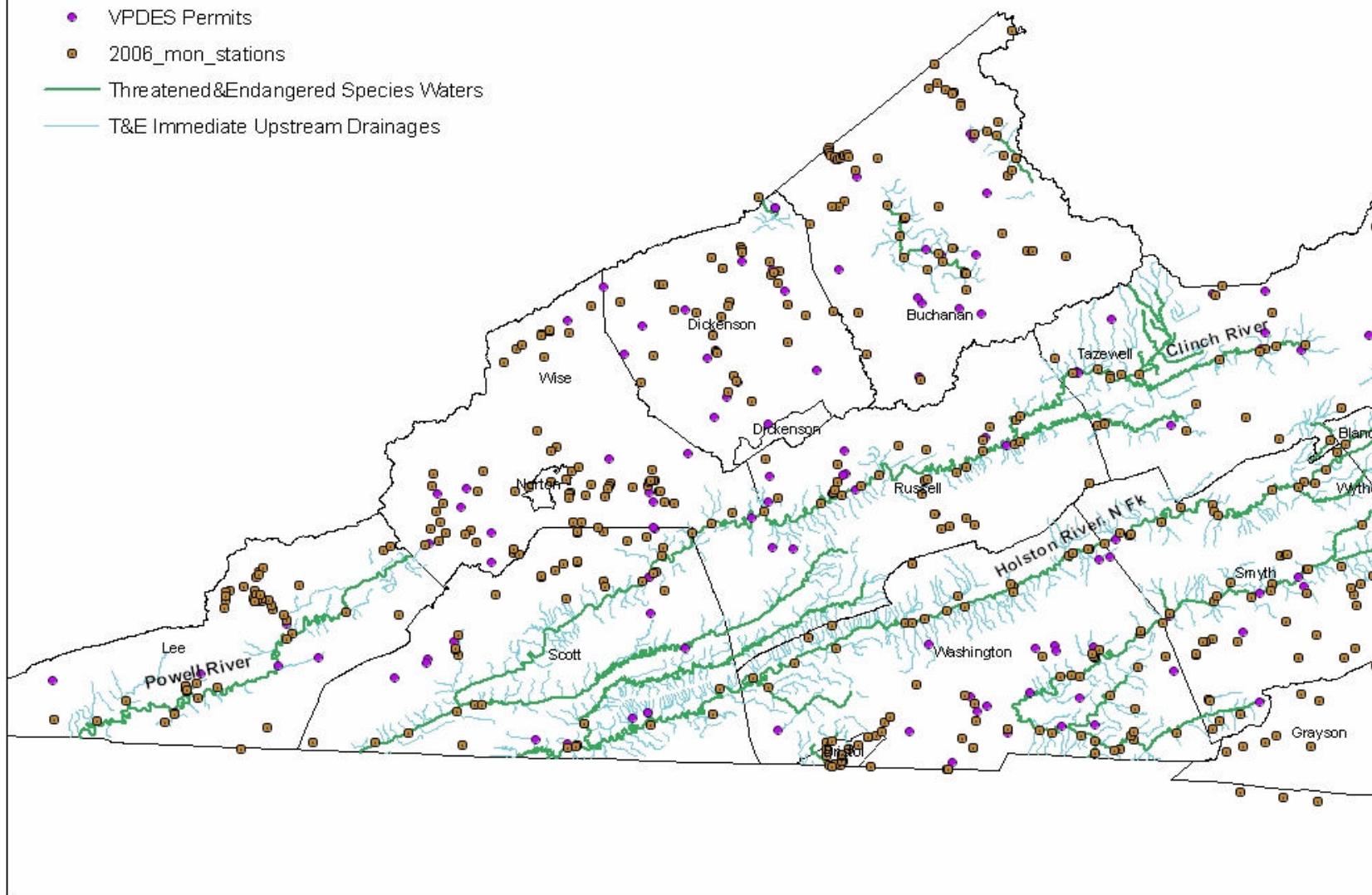
- PBT at new detection level may find in many municipal effluents at levels exceeding WQC
- Data query found few PBT permit limits except for hexachlorobenzene and mercury

Ammonia Criteria Impacts/Issues

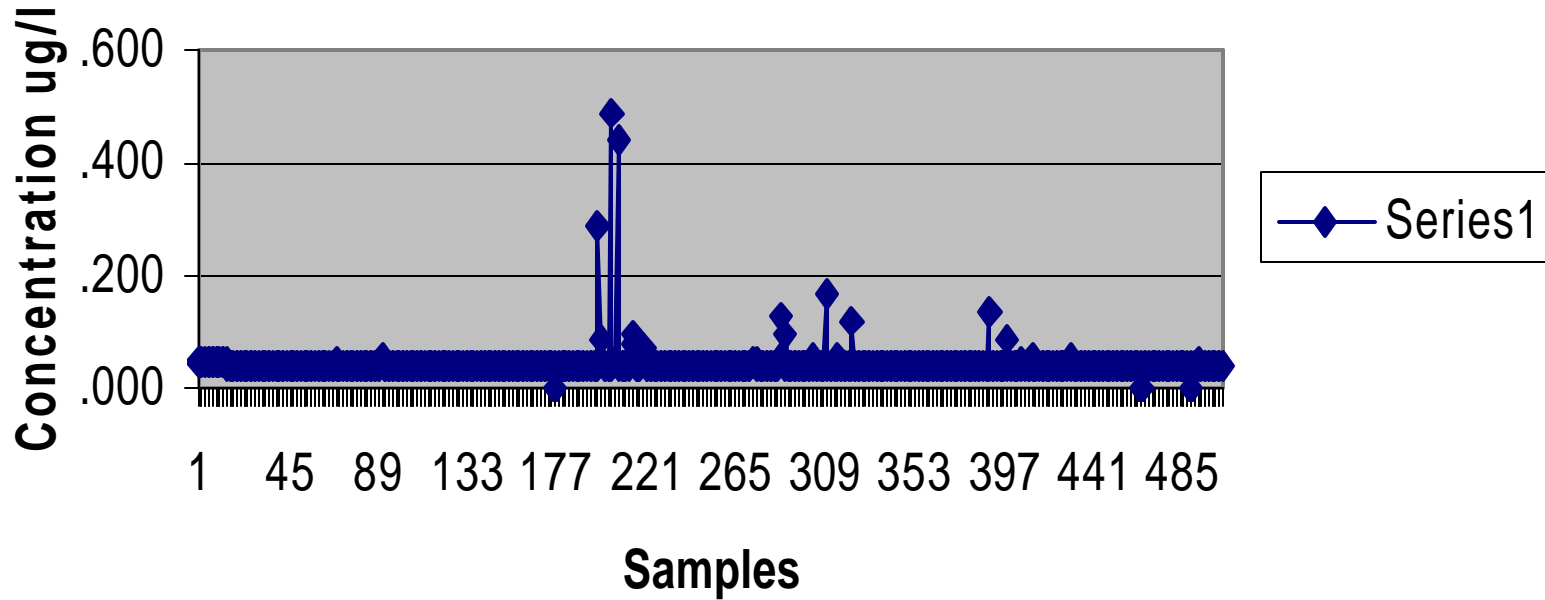
- 47 municipal facilities in Big Sandy Basin with ammonia limits
- Ammonia Limits in the 0.2 – 30 mg/l range
- Ambient Levels all below detection (.04 mg/l)
- Data report adverse effects at ammonia concentrations from 8 % to 70 % lower than those allowed by the current Virginia/EPA chronic ammonia criteria
- EPA – HQ discussion on ammonia

Legend

- VPDES Permits
- 2006_mon_stations
- Threatened&Endangered Species Waters
- T&E Immediate Upstream Drainages



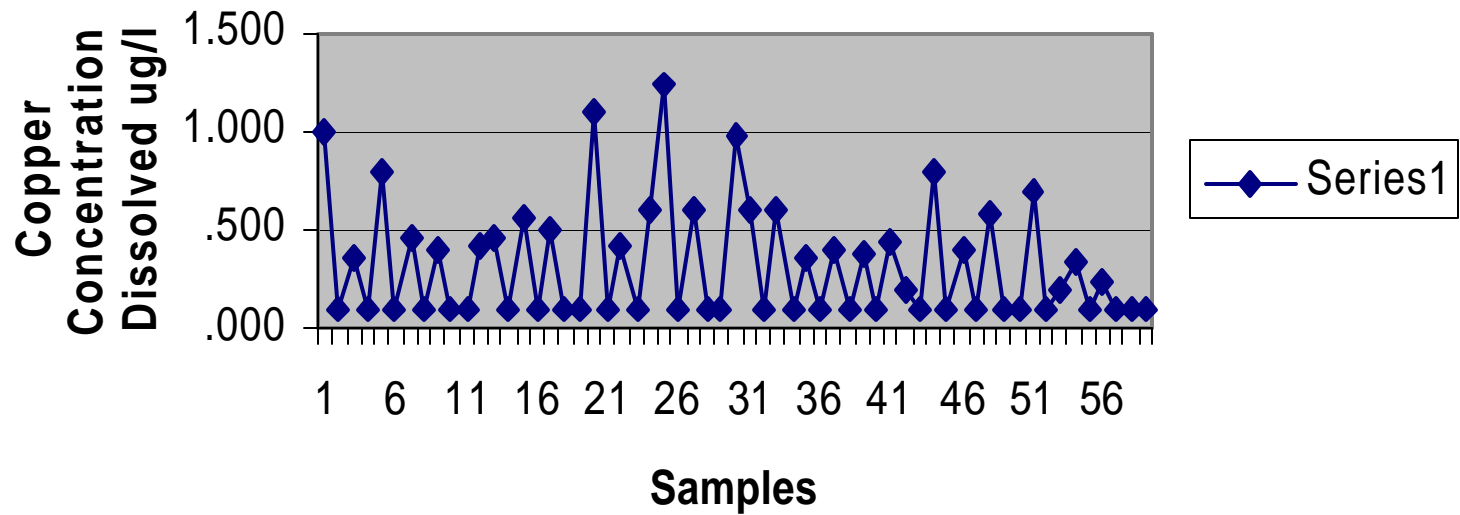
Ammonia Ambient Monitoring



Copper Criteria Impacts/Issues

- No Municipal Copper Limits
- Limits on ApCo Clinch River (39 µg/l)
- Ambient levels either below detection or near that (range 0.1 µg/l – 1.0 µg/l)
- New WQC uses different method of calculating the criteria for copper, using a “biotic ligand model” to calculate allowable concentrations of copper. How this new method for copper compares to the data in these new toxicity tests is unknown at this time
- Data report adverse effects on survival at copper concentrations from 35 % to 43 % lower than those allowed by the current Virginia/EPA chronic copper criteria and growth was reduced at concentrations 66-70% lower than the current chronic criterion.

Copper Ambient Monitoring



Cadmium/Cyanide Issues

- Cadmium 2006 data review from USGS now available
- Cyanide paper still reviewing

Ammonia, Copper, Cadmium, Cyanide Criteria

- Tell Board we received new data
- EPA still working on some of these issues at a national level (particularly ammonia, copper as biotic ligand model)
- Not an emergency situation (ambient data low)
- Impact could be extensive
- New TAC initiate before next Triennium to carefully review all new data available